5.4 Risk management for pollinators: regulatory context, overview of risk management tools and perspectives

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Introduction

The registration process for Plant Protection Products (pesticides) in agriculture relies on a preliminary evaluation of the risks they may pose to human health and the environment, among which honey bees and other non-target arthropods in the farmland [1]. If necessary, specific risk mitigation measures may accompany the registration in providing detailed conditions of use to reduce pollinators' exposure [1].

Risk mitigation measures for pesticides may be implemented at various levels. The regulatory process, as for example those implemented in Europe and North America, stipulates a range of precautionary or safety phrases describing appropriate conditions of use to report on the product's labelling [2]. Besides the labelling, crop management practices adopted by farmers at the farm scale may greatly influence the frequentation and resilience of pollinators. Finally for managed species, beekeepers themselves are involved into the management of colonies in space and time.

Risk mitigation measures are therefore of increasing importance for environmental protection in the area of the use of pesticides in crop protection. The question raises multiple exchanges between European authorities, and many initiatives have been undertaken in order to develop, implement and account for risk mitigation measures in the risk assessment procedures. The Organisation for Economical Co-Operation and Development (OECD) has undertaken surveys aiming at collecting risk mitigation practices in OECD countries. In May and November 2013, a European workshop under the auspices of SETAC and European Commission was organised in order to provide European regulatory authorities with a toolbox of risk mitigation measures designed for the use of Plant Protection Products for agricultural purposes.

This presentation will illustrate the outcome of the work undertaken by these organisations in the inventory and review of the risk mitigation measures developed and implemented to protect managed and wild bees in agricultural landscape.

Key words: pesticides, risk mitigation measures, risk management, honeybees, *Apis mellifera*, wild bees.

Methodology

The first MAgPIE workshop was organised in Rome in April 2013. It gathered 75 participants from 21 EU countries, Switzerland, Norway together with representatives from the European Commission and EFSA. The aim of this first workshop was to identify and prioritize the risk mitigation tools developed and used to protect environmental – aquatic and terrestrial - area in agroecosystems from side-effects of pesticides. The second workshop was organised in Madrid in November 2013. An inventory of the risk mitigation implemented in European countries and abroad was undertaken, extended to the measures that have proved to be effective and/or are still under development.

In parallel the working group 'Pesticide Effects on Insect Pollinators' of OECD has undertaken an inventory of the risk mitigation measures implemented in OECD countries. This inventory aims at informing on the different actions countries develop to better accompany the authorisation and use of pesticides in crop protection with regards to pollinators. The feedback is used as a basis to create a dedicated information portal on the OECD website.

Results and outcomes

To represent a quality habitat to pollinators, agroecosystems must provide enough elements for nesting and food resource. Then the composition of pollinator communities to be expected in agroecosystem depends on the habitat and food preferences, specific to each species, provided by the cropped fields and in the field margins. Landscape approaches bring, in this context, valuable insight in the understanding of the dynamic of pollinators' communities in farmlands [3].

A number of farm management tools beneficial to pollinators has been identified, ranging from natural and semi natural field margins to managed field margins, including dedicated pollen and nectar seed mixes, wildflower sown margins, grass strips or conservation headlands. Each of them presents advantages to pollinating insects either as a refuge area, useful during treatment or in providing a dedicated source of food or nesting habitat. A ranking of the benefits represented by each type of farm management is underway, as well as recommendations regarding the benefits associated to each of them regarding the mitigation of other type of risks. The result will be included in the toolbox prepared after the MAgPIE workshop together with recommendations for practical implementation by farmers, legal implementation by regulatory authorities and their potential use in risk assessment.

These farmland management measures complete the inventory gathered by the OECD-PEIP working group. The inventory includes regulatory risk mitigation recommendations as communicated through the label information of pesticide products and education and training of farmers and beekeepers. Label information is mandatory and implemented in all countries, adapted to national situations and farming practices and designed specifically for each product. Education and training programs are a key component of risk management as they drive the accuracy with which risk mitigation measures are implemented. These programs may be organised by any stakeholder and are most often voluntary initiatives, thus indicating a real commitment of countries.

Conclusion and perspectives

An important work is undertaken to inventory, evaluate, and communicate on the risk mitigation tools beneficial to managed and wild bees in agroecosystems. The proceedings of the MAgPIE workshop are in preparation and are intended to be finalized in 2014. They will therefore provide risk managers, farmers, beekeepers and risk assessors with a toolbox adapted to a range of needs at the farm level. The proceedings will be completed with a website gathering all suitable information to be shared by stakeholders, with advice for farmers in order to help them implementing the most relevant measures at a local scale, and a network to keep developing the toolbox and maintaining a high quality level. The risk management portal of the OECD-PEIP should be launched in 2014. It is believed that wider information on these actions will further encourage the dispersion of risk mitigation measures and stimulate their improvement in future.

References

[1] Regulation (EC) No 1107/2009 of the European parliament and of the council concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC. Official Journal L 309.1: 24.11.2009.

[2] Regulation (EC) No 547/2011 of 8 June 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards labelling requirements for plant protection products. Official Journal L 155/176: 11.06.2011.

[3] Anne Alix, Anja Bartels, Claudia Garrido, Connie Hart, Katja Knauer, Jean-Michel Laporte, Brigitte Maurizi, Christian Maus, Mark Miles, Christian Wolfgang Schneider, Helen Thompson and Jacoba Wassenberg. Monitoring effects of pesticides on pollinators – a review of methods and outcomes by the ICPPR working group. SETAC Europe 23rd Conference, Glasgow, May 12-16 2013.